

## ABSTRACT OF THE DISCLOSURE

A data dependent scrambler for a communications channel that receives a user data sequence including  $X$  bits that are organized as  $N$   $M$ -bit symbols includes a seed finder that generates a scrambling seed that is dependent upon the symbols in the user data sequence. A first scrambler receives the user data sequence from the data buffer and the scrambling seed from the seed finder and generates the scrambled user data sequence. An H-code finder generates at least one of an H-code token that is dependent upon the symbols in the user data sequence and an offset of the H-code token from the scrambling seed. An H-code encoder receives the scrambled user data sequence and at least one of the H-code token and the offset. The H-code encoder increases a Hamming weight of the scrambled user data sequence using the at least one of the H-code token and the offset.